SEQUENCE LISTING

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      TAMURA, TOMOHIRO

<120> METHOD OF PRODUCING RECOMBINANT PROTEIN IN BACTERIUM
      BELONGING TO GENUS RHODOCOCCUS

<130> 081356-0253

<140> 10/553,979
<141> 2005-10-20

<150> PCT/JP04/005585
<151> 2004-04-19

<150> JP 2003116280
<151> 2003-04-21

<160> 168

<170> PatentIn Ver. 3.3

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<210> 31
<211> 22
<212> DNA
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      primer T7

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<210> 32
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      primer sHN153

<400> 32
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<210> 33
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<210> 34
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      primer T3

<400> 34
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<400> 35
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<210> 36
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      primer sHN156

<400> 36
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<210> 37
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      primer sHN110

<400> 37
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tagatctcga ggatgaa 77

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<210> 40
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ccatcactga a 71

<210> 41
<211> 71
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<210> 42
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      primer NNde1

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<210> 44
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      primer NNde2

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<400> 47
aacatatgta tatctccttc ttaaagttaa ac                              32


<210> 48
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<212> DNA
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      primer sHN343

<400> 48
aaactagttc agtgatggtg atggtgatgc tcgagagatc t                    41


<210> 49
<211> 8166
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      vector pTip-NH1 sequence

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      primer sHN389

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<210> 58
<211> 29
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN390

<400> 58
gtagatctcc tccgactgca tcaacggcg   29

<210> 59
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN391

<400> 59
accgttaacc atcagtactt ggcgtggtg   29

<210> 60
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
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<400> 60
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<210> 61
<211> 24
<212> DNA
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<220>
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      primer sHN335

<400> 61
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<210> 62
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<212> DNA
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<210> 63
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<210> 64
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<400> 64
ttcgaggtct tgctggtcac acgcatcgtg   30

<210> 65
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<220>
<223> Description of Artificial Sequence: Synthetic
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<400> 65
aagagctctc tagacgcatc cgaaacctcc accc   34

<210> 66
<211> 21
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN362

<400> 66
acaacatgaa ctcggatgtg c   21

<210> 67
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<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN363

<400> 67
ccggactcat accggacatg g   21

<210> 68
<211> 32
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<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN364

<400> 68
aaactagtca tggtcgctgt agtggaactc ac   32

<210> 69
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<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN368

<400> 69
aacgttgtct ttatgttgga tc   22

<210> 70
<211> 35
<212> DNA
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<223> Description of Artificial Sequence: Synthetic
      primer sHN373

<400> 70
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<210> 71
<211> 95
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
      primer MCS-1a

<400> 71
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<210> 72
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<223> Description of Artificial Sequence: Synthetic
      primer MCS-1b

<400> 72
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<210> 73
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<220>
<223> Description of Artificial Sequence: Synthetic
      primer MCS-2a

<400> 73
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gcttagatct ctcgagcatc accatcacca tcactgaa                     98


<210> 74
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<220>
<223> Description of Artificial Sequence: Synthetic
      primer MCS-2b

<400> 74
ctagttcagt gatggtgatg gtgatgctcg agagatctaa gcttggatcc gcggccgcta 60
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<210> 75
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN217

<400> 75
tgacgccgtc cattatacct cctcacgtg   29

<210> 76
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN218

<400> 76
gagaagggag cggccatggc   20

<210> 77
<211> 29
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN395

<400> 77
tttgttaact agagtaacgg gctactccg   29

<210> 78
<211> 28
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN396

<400> 78
aaggtacctc aacgacagga gcacgatc   28

<210> 79
<211> 33
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<220>
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<400> 79
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<210> 80
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     primer sHN398

<400> 80
ttggtacctc gctgtagtgg aactcaccga gcac   34

<210> 81
<211> 26
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
     primer sHN147

<400> 81
cgtgtacata tcgaggcggg ctccca   26

<210> 82
<211> 34
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
     primer sHN376

<400> 82
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<210> 83
<211> 27
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN388

<400> 83
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<210> 84
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<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN120

<400> 84
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<210> 85
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN160

<400> 85
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<210> 86
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN337

<400> 86
aaccatggct agcaaaggag aagaact   27

<210> 87
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN338

<400> 87
aagtgttggc caaggaacag gtag   24

<210> 88
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN339

<400> 88
gtcactactt tctcttatgg   20

<210> 89
<211> 55
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      primer sHN340

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<210> 90
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<400> 90
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<211> 5984
<212> DNA
<213> Artificial Sequence

<220>
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      vector pNit-QT1 sequence

<400> 99
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<220>
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<220>
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      vector pNit-RT1 sequence

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<220>
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atcgggtgtg tccgtggcgc tcattccaac ctccgtgtgt ttgtgcaggt ttcgcgtgtt 3900
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ctcctgcgga aagggctgga tctgcccctg ctgtgcggga aaagtcggcg cacatcgagc 4740
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ccacgctcta ctcatgttca gcggtgacgt gagtgagaac atcctcgaat ccttctcgga 5040
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taattcaggt ggactcgacg taagaaagat tggtggagaa gctgaccaag ttctcgctgc 5160
atacctgacg aaaattgcat ccggggtcgg catggaagtc ggcagtggcg acggaaaaag 5220
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ctgggcctgc gggcggagca ccgaagcgcg agcgaagcgg agcgcgtagg tggggagcc 6120
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tgcgggcagc ggcggcggag ccgccgcctt ggtaataggt gatcatcggg gccatagcag 6180
gtcagaggat gtttttacga tgactcatgc tcaccacgcc aagtactgat g   6231

<210> 107
<211> 124
<212> DNA
<213> Rhodococcus erythropolis

<220>
<223> mutated TipA gene promoter

<400> 107
cgcccgggct gagggagccg acggcacgcg gcggctcacg gcgtggcacg cggaacgtcc 60
gggcttgcac ctcacgtcac gtgaggaggt ataatggacg gcgtcagaga aggggacggc 120
catg   124

<210> 108
<211> 422
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence

<220>
<221> CDS
<222> (151)..(222)

<400> 108
gtgtacatat cgaggcgggc tcccacggcc gcccgggctg agggagccga cggcacgcgg 60

cggctcacgg cgtggcacgc ggaacgtccg ggcttgcacc tcacgtcacg tgaggaggca 120

gcgtggacgg cgtcagagaa gggagcggcc atg ggc cac cat cac cat cac cat 174
                                   Met Gly His His His His His
                                   1   5

atg gga att cta cgt agc ggc cgc gga tcc aag ctt aga tct cga gga 222
Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Arg Gly
    10   15   20

tgaactagtc gacccaccgg cacccgtgag cccctcgctg cgggtgccgg tgcgagggac 282

tgcaacacgc gaaacctgca caaacacacg gaggttggaa tgagcgccac ggacacaccc 342

gataccggcg ccgttccacc ccggttggtg accaccgctg gggcggctga cctgctacgc 402

cgcctcagcg ggactctagt   422

<210> 109
<211> 24
<212> PRT
<213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 109
Met Gly His His His His His His Met Gly Ile Leu Arg Ser Gly Arg
  1               5                  10                      15

Gly Ser Lys Leu Arg Ser Arg Gly
              20


<210> 110
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence

<400> 110
gtctagaaat aattttgttt aactttaaga aggagatata cc                        42


<210> 111
<211> 416
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence

<220>
<221> CDS
<222> (151)..(216)

<400> 111
gtgtacatat cgaggcgggc tcccacggcc gcccgggctg agggagccga cggcacgcgg 60

cggctcacgg cgtggcacgc ggaacgtccg ggcttgcacc tcacgtcacg tgaggaggca 120

gcgtggacgg cgtcagagaa gggagcggcc atg gga att cta cgt agc ggc cgc 174
                                  Met Gly Ile Leu Arg Ser Gly Arg
                                    1               5

gga tcc aag ctt aga tct cga gga cat cac cat cac cat cac          216
Gly Ser Lys Leu Arg Ser Arg Gly His His His His His
    10                  15                  20

tgaactagtc gacccaccgg cacccgtgag cccctcgctg cgggtgccgg tgcgagggac 276

tgcaacacgc gaaacctgca caaacacacg gaggttggaa tgagcgccac ggacacaccc 336

gataccggcg ccgttccacc ccggttggtg accaccgctg gggcggctga cctgctacgc 396

cgcctcagcg ggactctagt                                              416
```

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<210> 112
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 112
Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Arg Gly
  1               5                  10                  15

His His His His His His
              20


<210> 113
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence

<400> 113
gtctagaaat aattttgttt aactttaaga aggagatata cc                          42


<210> 114
<211> 425
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence

<220>
<221> CDS
<222> (151)..(225)

<400> 114
gtgtacatat cgaggcgggc tcccacggcc gcccgggctg agggagccga cggcacgcgg 60

cggctcacgg cgtggcacgc ggaacgtccg ggcttgcacc tcacgtcacg tgaggaggca 120

gcgtggacgg cgtcagagaa gggagcgcat atg ggc cat cac cat cac cat cac 174
                                   Met Gly His His His His His His
                                     1               5

gcc atg gga att cta cgt agc ggc cgc gga tcc aag ctt aga tct cga 222
Ala Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Arg
     10              15                  20
```

gga tgaactagtc gacccaccgg cacccgtgag cccctcgctg cgggtgccgg   275
Gly
 25

tgcgagggac tgcaacacgc gaaacctgca caaacacacg gaggttggaa tgagcgccac 335

ggacacaccc gataccggcg ccgttccacc ccggttggtg accaccgctg gggcggctga 395

cctgctacgc cgcctcagcg ggactctagt   425

<210> 115
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 115
Met Gly His His His His His His Ala Met Gly Ile Leu Arg Ser Gly
  1   5   10   15

Arg Gly Ser Lys Leu Arg Ser Arg Gly
            20   25

<210> 116
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence

<400> 116
gtctagaaat aattttgttt aactttaaga aggagatata cat   43

<210> 117
<211> 416
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence

<220>
<221> CDS
<222> (151)..(216)

<400> 117
gtgtacatat cgaggcgggc tcccacggcc gcccgggctg agggagccga cggcacgcgg 60

cggctcacgg cgtggcacgc ggaacgtccg ggcttgcacc tcacgtcacg tgaggaggca 120

```
gcgtggacgg cgtcagagaa gggagcgcat atg gga att cta cgt agc ggc cgc  174
                                   Met Gly Ile Leu Arg Ser Gly Arg
                                    1               5

gga tcc aag ctt aga tct cga gga cat cac cat cac cat cac          216
Gly Ser Lys Leu Arg Ser Arg Gly His His His His His His
     10                  15                  20

tgaactagtc gacccaccgg cacccgtgag cccctcgctg cgggtgccgg tgcgagggac 276

tgcaacacgc gaaacctgca caaacacacg gaggttggaa tgagcgccac ggacacaccc 336

gataccggcg ccgttccacc ccggttggtg accaccgctg gggcggctga cctgctacgc 396

cgcctcagcg ggactctagt                                            416


<210> 118
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 118
Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Arg Gly
 1               5                  10                  15

His His His His His His
            20


<210> 119
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence

<400> 119
gtctagaaat aattttgttt aactttaaga aggagatata cat                   43


<210> 120
<211> 81
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence
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<220>
<221> CDS
<222> (3)..(68)


<400> 120
cc atg gga att cta cgt agc ggc cgc gga tcc aag ctt aga tct ctc    47
   Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Leu
    1               5                  10                  15


gag cat cac cat cac cat cac tgaactagtc gac                        81
Glu His His His His His His
                20



<210> 121
<211> 22
<212> PRT
<213> Artificial Sequence


<220>
<223> Description of Artificial Sequence: Synthetic
      peptide


<400> 121
Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Leu Glu
 1               5                  10                  15


His His His His His His
             20



<210> 122
<211> 82
<212> DNA
<213> Artificial Sequence


<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence


<220>
<221> CDS
<222> (4)..(69)


<400> 122
cat atg gga att cta cgt agc ggc cgc gga tcc aag ctt aga tct ctc    48
    Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Leu
     1               5                  10                  15


gag cat cac cat cac cat cac tgaactagtc gac                        82
Glu His His His His His His
               20



<210> 123
<211> 22
<212> PRT
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 123
Met Gly Ile Leu Arg Ser Gly Arg Gly Ser Lys Leu Arg Ser Leu Glu
 1   5   10   15

His His His His His His
               20

<210> 124
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence

<400> 124
gtcagagaag ggagcggcca tg   22

<210> 125
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence

<400> 125
gtctagaaat aattttgttt aactttaaga aggagatata ccatg   45

<210> 126
<211> 14
<212> PRT
<213> Rhodococcus erythropolis

<400> 126
Gly Leu Arg Ser Cys Gly Lys Gly Trp Ile Cys Pro Cys Cys
 1   5   10

<210> 127
<211> 8
<212> PRT
<213> Rhodococcus erythropolis

<400> 127
Met Val Thr Met Thr Met Arg His
 1   5

<210> 128
<211> 26
<212> PRT
<213> Rhodococcus erythropolis

<400> 128
Gly Cys Asp Gly Tyr Val Arg Ala Val Glu Ile Thr His Gly Lys Asn
 1   5   10   15

Gly Trp His Val His Val His Ala Leu Leu
            20   25

<210> 129
<211> 10
<212> PRT
<213> Rhodococcus erythropolis

<400> 129
Leu Ala Ala Tyr Leu Thr Lys Ile Ala Ser
 1   5   10

<210> 130
<211> 21
<212> PRT
<213> Rhodococcus erythropolis

<400> 130
Trp Arg Glu Phe Glu Phe Gly Ser Met Gly Arg Arg Ala Ile Ala Trp
 1   5   10   15

Ser Arg Gly Leu Arg
            20

<210> 131
<211> 14
<212> PRT
<213> Arcanobacterium pyrogens

<400> 131
Gly Leu His Thr Cys Gly Ser Val Trp Ala Cys Pro Val Cys
 1   5   10

<210> 132
<211> 8
<212> PRT
<213> Arcanobacterium pyrogens

<400> 132
Met Leu Thr Leu Thr Gln Arg His
 1   5

<210> 133
<211> 26
<212> PRT
<213> Arcanobacterium pyrogens

<400> 133
Gly Leu Val Gly Tyr Val Arg Ala Asn Glu Ile Thr His Gly Lys His
 1   5   10   15

Gly Trp His Val His Ser His Val Leu Ile
            20   25

<210> 134
<211> 10
<212> PRT
<213> Arcanobacterium pyrogens

<400> 134
Ile Gly Asn Tyr Val Ser Lys Met Gln Thr
 1   5   10

<210> 135
<211> 21
<212> PRT
<213> Arcanobacterium pyrogens

<400> 135
Trp Lys Glu Tyr Glu Lys Ala Ser Phe Gly Arg Arg Ala Leu Thr Trp
 1   5   10   15

Ser Lys Gly Leu Arg
            20

<210> 136
<211> 8
<212> PRT
<213> Brevibacterium lactofermentium

<400> 136
Met Phe Val Gly Thr Val Arg His
 1   5

<210> 137
<211> 26
<212> PRT
<213> Brevibacterium lactofermentium

<400> 137
Val Glu His Thr Tyr Ser Asp Tyr Glu Val Thr Asp Ser Trp Ala Asn
 1   5   10   15

Gly Trp His Leu His Arg Asn Met Leu Leu
            20   25

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<210> 138
<211> 10
<212> PRT
<213> Brevibacterium lactofermentium

<400> 138
Met Ala Thr Tyr Leu Ala Lys Gly Met Ser
 1               5                   10


<210> 139
<211> 20
<212> PRT
<213> Brevibacterium lactofermentium

<400> 139
Trp Arg Glu Tyr Glu Val Gly Ser Lys Asn Leu Arg Ser Ser Trp Ser
 1               5                   10                  15

Arg Gly Ala Lys
            20


<210> 140
<211> 14
<212> PRT
<213> Streptomyces phaeochromogenes

<400> 140
Gly Leu Val Arg Cys Gly Arg Ile Trp Phe Cys Pro Glu Cys
 1               5                   10


<210> 141
<211> 8
<212> PRT
<213> Streptomyces phaeochromogenes

<400> 141
Leu Val Thr Phe Thr Ala Arg His
 1               5


<210> 142
<211> 27
<212> PRT
<213> Streptomyces phaeochromogenes

<400> 142
Gly Tyr Ile Gly Met Val Arg Ala Ala Glu Val Thr Arg Ser Lys Lys
 1               5                   10                  15

Asn Gly Tyr His Pro His Leu Asn Leu Leu Val
            20                  25
```

<210> 143
<211> 10
<212> PRT
<213> Streptomyces phaeochromogenes

<400> 143
Leu Ile Glu Tyr Leu Thr Lys Asn Gln Asp
 1   5   10

<210> 144
<211> 21
<212> PRT
<213> Streptomyces phaeochromogenes

<400> 144
Trp Ala Gln Tyr Glu Glu Ala Leu Ala Gly Arg Arg Ala Ile Glu Trp
 1   5   10   15

Thr Arg Gly Leu Arg
            20

<210> 145
<211> 14
<212> PRT
<213> Streptomyces lividans

<400> 145
Gly Leu Met Arg Cys Gly Arg Ile Trp Leu Cys Pro Val Cys
 1   5   10

<210> 146
<211> 8
<212> PRT
<213> Streptomyces lividans

<400> 146
Leu Val Thr Phe Thr Ala Arg His
 1   5

<210> 147
<211> 26
<212> PRT
<213> Streptomyces lividans

<400> 147
Gly Tyr Val Gly Met Arg Ala Thr Glu Val Thr Val Gly Gln Ile Asn
 1   5   10   15

Gly Trp His Pro His Ile His Ala Ile Val
            20   25

<210> 148
<211> 10
<212> PRT
<213> Streptomyces lividans

<400> 148
Leu Ala Glu Tyr Ile Ala Lys Thr Gln Asp
 1   5   10

<210> 149
<211> 21
<212> PRT
<213> Streptomyces lividans

<400> 149
Trp His Glu Tyr Glu Arg Ala Thr Arg Gly Arg Arg Ala Ile Glu Trp
 1   5   10   15

Thr Arg Tyr Leu Arg
             20

<210> 150
<211> 14
<212> PRT
<213> Streptomyces nigrifaciens

<400> 150
Gly Leu Met Arg Cys Gly Arg Ile Trp Leu Cys Pro Val Cys
 1   5   10

<210> 151
<211> 8
<212> PRT
<213> Streptomyces nigrifaciens

<400> 151
Leu Val Thr Phe Thr Ala Arg His
 1   5

<210> 152
<211> 26
<212> PRT
<213> Streptomyces nigrifaciens

<400> 152
Gly Tyr Val Gly Met Arg Ala Thr Glu Val Thr Val Gly Gln Ile Asn
 1   5   10   15

Gly Trp His Pro His Ile His Ala Ile Val
             20   25

<210> 153
<211> 10
<212> PRT
<213> Streptomyces nigrifaciens

<400> 153
Leu Ala Glu Tyr Ile Ala Lys Thr Gln Asp
 1   5   10

<210> 154
<211> 21
<212> PRT
<213> Streptomyces nigrifaciens

<400> 154
Trp His Glu Tyr Glu Arg Ala Thr Lys Gly Arg Arg Ala Ile Glu Trp
 1   5   10   15

Thr Arg Tyr Leu Arg
            20

<210> 155
<211> 30
<212> DNA
<213> Rhodococcus erythropolis

<400> 155
cgagcgaagc ggagcgcgta ggtgggggag   30

<210> 156
<211> 27
<212> DNA
<213> Arcanobacterium pyrogens

<400> 156
caggtatgcg gaaaacttta ggaacaa   27

<210> 157
<211> 32
<212> DNA
<213> Brevibacterium lactofermentium

<400> 157
gaaatagaag tgaacacctc taaggaaccg ca   32

<210> 158
<211> 31
<212> DNA
<213> Streptomyces phaeochromogenes

<400> 158
ctggcaaaaa gggacgccta ggtaaagggt t   31

<210> 159
<211> 30
<212> DNA
<213> Streptomyces lividans

<400> 159
gaggcaaaag cgaacacctt gggaaagaaa   30

<210> 160
<211> 32
<212> DNA
<213> Streptomyces nigrifaciens

<400> 160
gacccaaaac gtgtcgcgcc ttgggaaaga aa   32

<210> 161
<211> 270
<212> DNA
<213> Rhodococcus erythropolis

<400> 161
tgagggcatc cccccgatac ttgccgcttt gaagctgggt gtctctctgt cagggctgcg 60
atagcaccgc gtagcggctt ggccttgaca gagagacggc ctgtttcatg gttggtctcg 120
gggggctgac cgggcagata gaaaaaggcc ggccgatttg gctgccgact atttttgcag 180
gtaaacccat ctcatgagca tcaatgaacg tcccgttgta tcgcagcgcg tgcagcttcg 240
gtagacgtcg atggcgttgt gatgggtgtg   270

<210> 162
<211> 170
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence

<400> 162
tgtacatatc gaggcgggct cccacggccg cccgggctga gggagccgac ggcacgcggc 60
ggctcacggc gtggcacgcg gaacgtccgg gcttgcacct cacgtcacgt gaggaggcag 120
cgtggacggc gtctagaaat aattttgttt aactttaaga agaagatata   170

<210> 163
<211> 95
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence

<220>
<221> CDS
<222> (3)..(92)

<400> 163
cc atg ggc cac cat cac cat cac cat atg gga att cta cgt agc ggc   47
  Met Gly His His His His His His Met Gly Ile Leu Arg Ser Gly
   1   5   10   15

cgc gga tcc aag ctt aga tct ctc gag cat cac cat cac cat cac tga   95
Arg Gly Ser Lys Leu Arg Ser Leu Glu His His His His His His
          20   25   30

<210> 164
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
    peptide

<400> 164
Met Gly His His His His His His Met Gly Ile Leu Arg Ser Gly Arg
  1   5   10   15

Gly Ser Lys Leu Arg Ser Leu Glu His His His His His His
       20   25   30

<210> 165
<211> 99
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
    nucleotide sequence

<220>
<221> CDS
<222> (4)..(96)

<400> 165
cat atg ggc cat cac cat cac cat cac gcc atg gga att cta cgt agc   48
  Met Gly His His His His His His Ala Met Gly Ile Leu Arg Ser
   1   5   10   15

ggc cgc gga tcc aag ctt aga tct ctc gag cat cac cat cac cat cac   96
Gly Arg Gly Ser Lys Leu Arg Ser Leu Glu His His His His His His
       20   25   30

tga   99

<210> 166
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 166
Met Gly His His His His His His Ala Met Gly Ile Leu Arg Ser Gly
 1   5   10   15

Arg Gly Ser Lys Leu Arg Ser Leu Glu His His His His His His
            20   25   30

<210> 167
<211> 197
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      nucleotide sequence

<400> 167
actagtcgac ccaccggcac ccgtgagccc ctcgctgcgg gtgccggtgc gagggactgc 60
aacacgcgaa acctgcacaa acacacggag gttggaatga gcgccacgga cacacccgat 120
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His His His His His His
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